Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1-59. (Canceled)

60. (Currently Amended) A process for recovering a precious metal from a precious metal-containing material, comprising:

(a) providing a heap of the precious metal-containing material; and

(b) passing a thiosulfate lixiviant and molecular oxygen through the heap to form a pregnant leach solution comprising dissolved precious metals, wherein the molecular oxygen is at a pressure greater than its ambient atmospheric pressure before introduction into the heap, wherein the thiosulfate lixiviant has a free ammonia content of no more than about 0.03M and wherein a dissolved molecular oxygen content of the lixiviant is at least about 1 mg/L.

61. (Previously Presented) The process of claim 60, wherein the molecular oxygen is in the form of a gas and the thiosulfate lixiviant and molecular oxygen flow countercurrently through the heap.

62. (Previously Presented) The process of claim 60, wherein the molecular oxygen is introduced under pressure into the heap by a network of conduits positioned in the base of the heap.

63. (Previously Presented) The process of claim 60, wherein the precious metal-containing material is agglomerated and wherein the lixiviant comprises a dissolved copper content of no more than about 20 mg/L.

64. (Previously Presented) The process of claim 60, wherein the thiosulfate lixiviant has a pH of less than pH 9 before introduction into the heap.

65. (Previously Presented) The process of claim 60, wherein at least about 0.5 kg of molecular oxygen/ton of heap material is introduced into the heap during leaching.

66. (Previously Presented) The process of claim 60, wherein a dissolved molecular oxygen content of the lixiviant is at least about 1 mg/L.

67. (Previously Presented) The process of claim 60, wherein a lower portion of the heap comprises a network of aerating pipes and wherein; while the thiosulfate lixiviant is passing through the heap, the molecular oxygen is passed through the network of aerating pipes and heap countercurrently to the flow of the thiosulfate lixiviant.

68. (Previously Presented) The process of claim 67, wherein the molecular oxygen is at a pressure greater than its ambient atmospheric pressure before passage through the aerating pipes and wherein the molecular oxygen is forced through the aerating pipes using at least one of a compressor, blower, and fan.

69. (Previously Presented) The process of claim 68, wherein the molecular oxygen is in a gas and the gas has a pressure of at least about 1 inch H_2O greater than ambient atmospheric pressure.

70. (Previously Presented) The process of claim 68, wherein the molecular oxygen is in a gas and the gas has a pressure of at least about 30 inch H_2O greater than ambient atmospheric pressure.

71. (Previously Presented) The process of claim 68, wherein at least about 0.5 kg of molecular oxygen is passed through the heap for each ton of material in the heap.

72. (Previously Presented) The process of claim 68, wherein from about 1 to about 10 kg of molecular oxygen is passed through the heap for each ton of material in the heap.

73. (Previously Presented) The process of claim 68, wherein at least about 2 cubic meters of molecular oxygen-containing gas is passed through the heap for each cubic meter of lixiviant applied to the heap.

74. (Previously Presented) The process of claim 68, wherein from about 4 to about 40 cubic meters of molecular oxygen-containing gas is passed through the heap for each cubic meter of lixiviant applied to the heap.

75. (Previously Presented) The process of claim 60, wherein the thiosulfate lixiviant is free of free ammonia.

76. (Previously Presented) The process of claim 68, wherein the thiosulfate lixiviant has a dissolved copper content of no more than about 20 mg/L.

77. (Previously Presented) The process of claim 68, wherein a dissolved molecular oxygen content of the lixiviant is at least about 1 mg/L.

78. (Previously Presented) The process of claim 60, wherein the lixiviant is selected from the group consisting essentially of sodium thiosulfate, calcium thiosulfate, potassium thiosulfate, and mixtures thereof.

79. (Previously Presented) The process of claim 60, wherein the molecular oxygen is in the form of a gas and the thiosulfate lixiviant and molecular oxygen flow countercurrently through the heap, wherein the molecular oxygen is introduced under pressure into the heap by a network of conduits positioned in the base of the heap, wherein a lower portion of the heap comprises a network of aerating pipes and wherein, while the thiosulfate lixiviant is passing through the heap, the molecular oxygen is passed through the network of aerating pipes and heap countercurrently to the flow of thiosulfate lixiviant.

80. (Previously Presented) The process of claim 60, wherein the thiosulfate lixiviant has a dissolved copper content of no more than about 20 mg/l and wherein at least about 0.5 kg of molecular oxygen/ton of heap material is introduced into the heap during leaching.

81. (Previously Presented) The process of claim 60, wherein the thiosulfate lixiviant has a free ammonia content of no more than about 0.01 M.

82. (Previously Presented) The process of claim 60, wherein the thiosulfate lixiviant has a free ammonia content of no more than about 0.01 M and a dissolved copper content of no more than about 20 mg/L.

83. (Previously Presented) The process of claim 60, wherein an oxidation-reduction potential of the thiosulfate lixiviant ranges from about 100 to about 35 mv versus SHE.

84. (New) A process for recovering a precious metal from a precious metal-containing material, comprising:

(a) providing a heap of the precious metal-containing material; and

(b) passing a thiosulfate lixiviant and molecular oxygen through the heap to form a pregnant leach solution comprising dissolved precious metals, wherein the molecular oxygen is at a pressure greater than its ambient atmospheric pressure before introduction into the heap, wherein the thiosulfate lixiviant has a free ammonia content of no more than about 0.03M, wherein the molecular oxygen is introduced under pressure into the heap by a network of conduits positioned in the base of the heap.

85. (New) The process of claim 84, wherein the molecular oxygen is at a pressure greater than its ambient atmospheric pressure before passage through the conduits and wherein the molecular oxygen is forced through the conduits using at least one of a compressor, blower, and fan.

86. (New) The process of claim 84, wherein the molecular oxygen is in a gas and the gas has a pressure of at least about 1 inch H_2O greater than ambient atmospheric pressure.

87. (New) The process of claim 84, wherein the molecular oxygen is in a gas and the gas has a pressure of at least about 30 inch H_2O greater than ambient atmospheric pressure.

88. (New) The process of claim 84, wherein at least about 0.5 kg of molecular oxygen is passed through the heap for each ton of material in the heap.

89. (New) The process of claim 84, wherein from about 1 to about 10 kg of molecular oxygen is passed through the heap for each ton of material in the heap.

90. (New) The process of claim 84, wherein at least about 2 cubic meters of molecular oxygen-containing gas is passed through the heap for each cubic meter of lixiviant applied to the heap.

91 (New) The process of claim 84, wherein from about 4 to about 40 cubic meters of molecular oxygen-containing gas is passed through the heap for each cubic meter of lixiviant applied to the heap.

92. (New) A process for recovering a precious metal from a precious metal-containing material, comprising:

(a) providing a heap of the precious metal-containing material; and

(b) passing a thiosulfate lixiviant and molecular oxygen through the heap to form a pregnant leach solution comprising dissolved precious metals, wherein the molecular oxygen is at a pressure greater than its ambient atmospheric pressure before introduction into the heap, wherein the thiosulfate lixiviant has a free ammonia content of no more than about 0.03M, wherein a lower portion of the heap comprises a network of aerating pipes and wherein; while the thiosulfate lixiviant is passing through the heap, the molecular oxygen is passed through the network of aerating pipes and heap countercurrently to the flow of the thiosulfate lixiviant.

93. (New) The process of claim 92, wherein the molecular oxygen is at a pressure greater than its ambient atmospheric pressure before passage through the aerating pipes and wherein the

molecular oxygen is forced through the aerating pipes using at least one of a compressor, blower, and fan.

94. (New) The process of claim 92, wherein the molecular oxygen is in a gas and the gas has a pressure of at least about 1 inch H_2O greater than ambient atmospheric pressure.

95. (New) The process of claim 92, wherein the molecular oxygen is in a gas and the gas has a pressure of at least about 30 inch H_2O greater than ambient atmospheric pressure.

96. (New) The process of claim 92, wherein at least about 0.5 kg of molecular oxygen is passed through the heap for each ton of material in the heap.

97. (New) The process of claim 92, wherein from about 1 to about 10 kg of molecular oxygen is passed through the heap for each ton of material in the heap.

98. (New) The process of claim 92, wherein at least about 2 cubic meters of molecular oxygen-containing gas is passed through the heap for each cubic meter of lixiviant applied to the heap.

99 (New) The process of claim 92, wherein from about 4 to about 40 cubic meters of molecular oxygen-containing gas is passed through the heap for each cubic meter of lixiviant applied to the heap.

100. (New) A process for recovering a precious metal from a precious metal-containing material, comprising:

(a) providing a heap of the precious metal-containing material; and

(b) passing a thiosulfate lixiviant and molecular oxygen through the heap to form a pregnant leach solution comprising dissolved precious metals, wherein the molecular oxygen is at a pressure greater than its ambient atmospheric pressure before introduction into the heap, wherein the thiosulfate lixiviant has a free ammonia content of no more than about 0.03M, wherein the thiosulfate lixiviant has a dissolved copper content of no more than about 20 mg/L.

101. (New) A process for recovering a precious metal from a precious metal-containing material, comprising:

(a) providing a heap of the precious metal-containing material; and

(b) passing a thiosulfate lixiviant and molecular oxygen through the heap to form a pregnant leach solution comprising dissolved precious metals, wherein the molecular oxygen is at a pressure greater than its ambient atmospheric pressure before introduction into the heap, wherein the thiosulfate lixiviant has a free ammonia content of no more than about 0.03M, , wherein the molecular oxygen is in the form of a gas and the thiosulfate lixiviant and molecular oxygen flow countercurrently through the heap, wherein the molecular oxygen is introduced under pressure into the heap by a network of conduits positioned in the base of the heap, wherein a lower portion of the heap comprises a network of aerating pipes and wherein, while the thiosulfate lixiviant is passing through the heap, the molecular oxygen is passed through the network of aerating pipes and heap countercurrently to the flow of thiosulfate lixiviant.

102. (New) The process of claim 101, wherein the molecular oxygen is at a pressure greater than its ambient atmospheric pressure before passage through the aerating pipes and wherein the molecular oxygen is forced through the aerating pipes using at least one of a compressor, blower, and fan.

103. (New) The process of claim 101, wherein the molecular oxygen is in a gas and the gas has a pressure of at least about 1 inch H_2O greater than ambient atmospheric pressure.

104. (New) The process of claim 101, wherein the molecular oxygen is in a gas and the gas has a pressure of at least about 30 inch H_2O greater than ambient atmospheric pressure.

105. (New) The process of claim 101, wherein at least about 0.5 kg of molecular oxygen is passed through the heap for each ton of material in the heap.

106. (New) The process of claim 101, wherein from about 1 to about 10 kg of molecular oxygen is passed through the heap for each ton of material in the heap.

107. (New) The process of claim 101, wherein at least about 2 cubic meters of molecular oxygen-containing gas is passed through the heap for each cubic meter of lixiviant applied to the heap.

108 (New) The process of claim 101, wherein from about 4 to about 40 cubic meters of molecular oxygen-containing gas is passed through the heap for each cubic meter of lixiviant applied to the heap.